

PATENT APPLN. NO. 10/593,483
SUBMISSION UNDER 37 C.F.R. § 1.114

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IN THE CLAIMS:

1. (currently amended) A pre-filled syringe which comprises a barrel having a tip in which a nozzle is provided and an open base end and having an axis extending from said tip to said open base end, an intermediate gasket liquid-tightly partitioning an inside of the barrel into a front chamber and a rear chamber, a plunger gasket located in a base end side of the intermediate gasket and sealing the inside of the barrel, and a plunger rod connected to a base end of the plunger gasket, and in which in a tip side of the barrel relative to the intermediate gasket there is formed a bypass protruding outwardly in a radial direction,

wherein the intermediate gasket includes a seal part contacting an inner wall of the barrel and liquid-tightly partitioning the front chamber and the rear chamber, and a bypass communication passage providing communication between the front chamber and the rear chamber in cooperation with the bypass, and

wherein an axial length of the intermediate gasket parallel to the axis of the barrel is longer than that an axial length of the bypass parallel to the axis of the barrel, and when [[an]] the axial length of the bypass is a_1 and an axial effective length of the seal part is b_1 , $a_1 > b_1$.

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2. (canceled)

3. (previously presented) A pre-filled syringe according to claim 1, wherein the bypass communication passage includes a circumferential groove formed in an approximately circumferential direction of a base end side of the seal part, and a connection passage connecting the circumferential groove and the rear chamber.

4. (original) A pre-filled syringe according to claim 3, wherein the connection passage is a groove formed in an outer wall of the intermediate gasket.

5. (original) A pre-filled syringe according to claim 3, wherein the connection passage is a spiral groove formed in an outer wall of the intermediate gasket.

6. (original) A pre-filled syringe according to claim 3, wherein the connection passage is a conduit formed inside the intermediate gasket.

7. (previously presented) A pre-filled syringe according to claim 1, wherein the bypass communication passage comprises at

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least one first groove extending from an intermediate gasket tip side in a base end direction and at least one second groove extending from an intermediate gasket base end side in a tip direction, and a tip of the second groove is located in a tip side relative to a base end of the first groove.

8. (original) A pre-filled syringe according to claim 7, wherein when a length of the bypass in a circumferential direction is a_2 and a length of the shortest portion within a length of the seal part in the circumferential direction, which is separated by the first groove and the second groove, is b_2 , $a_2 > b_2$.

9. (currently amended) A pre-filled syringe according to claim 1, wherein if an axial length of a tip gasket parallel to the axis of the barrel is A, an axial length of the intermediate gasket parallel to the axis of the barrel is B, an axial length of the plunger gasket parallel to the axis of the barrel is C and a length from an inner wall tip of a nozzle member to an inner wall base end of the bypass is D, $A + B + C < D$.

10. (previously presented) A pre-filled syringe according to claim 1, wherein the barrel additionally comprises a tip gasket,

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and the front chamber is formed between the tip gasket and the intermediate gasket.

11. (previously presented) A pre-filled syringe according to claim 10, wherein the barrel additionally comprises a nozzle member, the nozzle is formed in a tip of the nozzle member, and the nozzle member includes a tip gasket accommodation part capable of accommodating the tip gasket, and a liquid passing passage through which a liquid medicine can pass when the tip gasket has been accommodated in the tip gasket accommodation part.